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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,542	01/18/2002	Christoph Gebhardt	113737.7	6594
41068	7590	05/06/2004	EXAMINER	
BUCHANAN INGERSOLL PC 1835 MARKET STREET, 14TH FLOOR PHILADELPHIA, PA 19103-2985			JOHNSTON, PHILLIP A	
			ART UNIT	PAPER NUMBER
			2881	

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

✓

<b>Office Action Summary</b>	<b>Application No.</b> 10/031,542	<b>Applicant(s)</b> GEBHARDT ET AL.	
	<b>Examiner</b> Phillip A Johnston	<b>Art Unit</b> 2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 22-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-52 is/are rejected.
- 7) ☒ Claim(s) 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Detailed Action***

***Claims Objection***

1. The disclosure is objected to because of the following informalities:

Claim 28 reads as follows "between the carder material and the reaction partner."  
and should be "between the carrier material and the reaction partner."

Appropriate correction is required.

***Claims Rejection – 35 U.S.C. 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 22-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,378,499 to Spangler, in view of Kublak, U.S. Patent No. 5,577,092.

Spangler (499) discloses an ion mobility detector utilizing surface interactions to improve detector response that includes;

(a) Loading neutral sample molecules in a carrier by impinging them onto a metal surface having a reactant species, and fragmenting the collisionally reacted cluster, as recited in claims 1, 40, 43, 46 and 49. See Column 3, line 30-42.

(b) Impinging neutrals on coated solid surfaces to initiate reactions, as recited in claims 24, 26, 28, 31, 39, 45, and 48. See Column 5, line 5-36, and line 58-65.

(c) Fragmenting chemically converted samples through excitation, as recited in claims 26, and 36. See Column 4, line 11-23.

(d) Utilizing alkali atoms, as recited in claim 30. see Column 2, line 21-45.

(e) The use of reactive surfaces coated with an acid or base material, as recited in claims 32, and 33. See Column 4, line 49-66.

It is implied herein that the coating surface density of Spangler (499) has a predetermined temporal average, as recited in claims 41, 44 and 50.

Spangler (499) as applied above fails to teach the use of a supersonic nozzle to form clusters, as recited in Claim 34. However, Kublak (092) discloses that it is well known in the art to form clusters by the supersonic expansion of a gas through a nozzle. See Column 3, line 6-26.

Therefore it would have been obvious to one of ordinary skill in the art that the cluster fragmentation method of Spangler (499) can be modified to use the supersonic nozzle of Kublak (092), to provide a source of neutral sample molecules which can impinge impinged on reactive surfaces to accomplish physical or chemical conversion.

Also it is inherent in Spangler (499), as particularly shown in figure 3, that when interferent molecules entrained in the carrier gas strike the surface and undergo surface reaction, they do so at a glancing angle of incidence, as recited in Claim 38.


### ***Conclusion***

3. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor John Lee can be reached at (571) 272-2477. The fax phone numbers are (703) 872-9318 for regular response activity, and (703) 872-9319 for after-final responses. In addition the customer service fax number is (703) 872- 9317.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

PJ

April 19, 2004

  
JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800